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Highlights of IAEA Waste Safety Programme

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Outline

- Joint Convention
- Progress Safety Standards
- Protection of the Environment
- Environmental Assessments
- New International Biospheric Modelling Project (EMRAS)

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Joint Convention

- **Status**
  - **September 2003 – 32 Contracting Parties – 1 Contracting State**
- **Meetings**
  - **Coordinators and Rapporteurs 22-23 September 2003**
  - **1st Review Meeting – 3-14 November 2003**

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Contracting Parties (Current status, September 2003 – 32 countries)

Argentina
Australia
Austria
Belarus
Belgium
Bulgaria
Canada
Croatia
Czech Republic
Denmark
Finland
France
Germany
Greece
Hungary
Ireland
Korea
Latvia
Luxembourg
Morocco
Netherlands
Norway
Poland
Romania
Slovakia
Slovenia
Spain
Sweden
Switzerland
Ukraine
United Kingdom
United States

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Joint Convention

- **Secretariat instructed by Contracting Parties to promote the Convention**
  - **Letter to all Member States**
  - **Information Pack**
  - **Briefings at General Conference and at Regional TC meetings**
  - **Emphasise in future Training Activities and Conferences**

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Benefits for a country from becoming a Contracting Party to the Joint Convention

- **Improvements in safety as an outcome of the review process**
- **Gain in knowledge through information exchange**
- **Improved credibility because of involvement in an international convention on safety**
- **Evidence of an open and transparent national approach**
- **Support in cases of malpractice in neighbouring States**
- **Greater influence in a regional context**
- **Possible technical assistance from other Contracting Parties**

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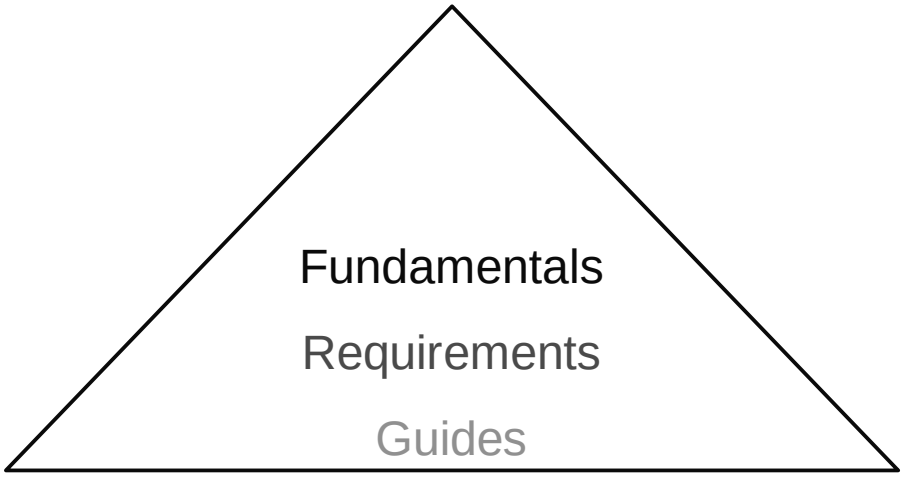
HIERARCHY OF INTERNATIONAL STANDARDS



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STANDARDS PREPARATION PROCESS

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Scope of RADWASS

Safety in the management of all types of material, once declared as "waste"

Pre-disposal management – waste collection, treatment, packaging, storage
Decommissioning and associated waste management
Discharge control
Release of solid materials from control
Disposal – near surface, geological disposal
Management of U mining and milling waste
Remediation of areas affected by residual waste

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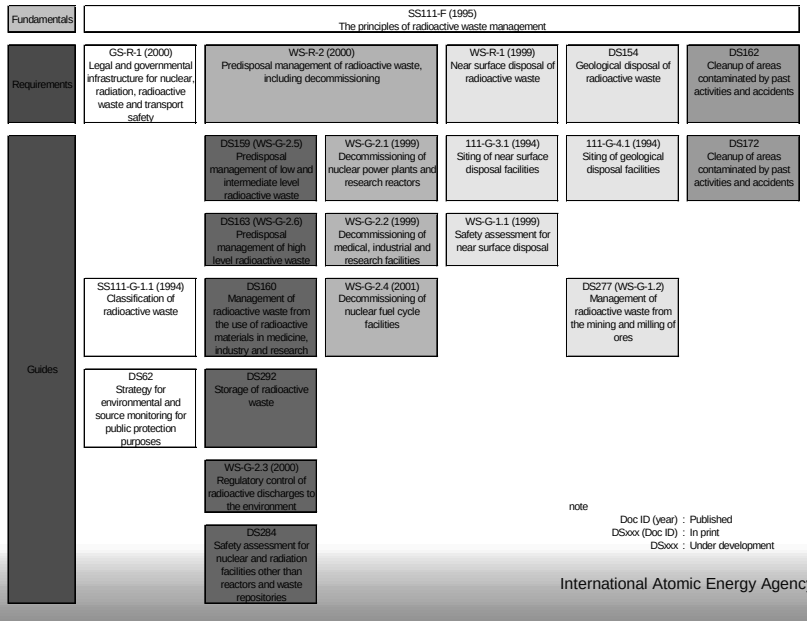
Overview of the RADWASS document plan



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RADWASS features

Completion of current phase – 2004

Current emphasis:

- Safety Requirements on Geological Disposal
- Safety Guide on Specification of Radionuclide Content in Commodities requiring Regulation for Purposes of Radiation Protection
- Safety Guide on Strategy for Environmental Monitoring

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Waste safety – still a developing situation

- Borehole disposal
- Long-term storage of waste
- Release of sites and buildings after decommissioning
- Protection of the environment

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Global safety regime

- International Conventions – legally binding – (i) nuclear safety, (ii) spent fuel and waste and (iii) emergencies
- International safety standards – recommendations
- Standards increasingly seen as global reference points and as a basis for demonstrating compliance with the conventions

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Safety Standards – a new scheme

- Five safety areas
  - Safety of nuclear facilities
  - Radiation protection and safety of radiation sources
  - Safe management of radioactive waste
  - Safe transport of radioactive material
  - General safety (cross-cutting themes)

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Thematic areas

- Legal and governmental infrastructure
- Emergency preparedness and response
- Management systems
- Assessment and verification
- Site evaluation
- Radiation protection
- Radioactive waste management
- Decommissioning
- Rehabilitation of contaminated areas

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Facilities and activities

- Nuclear power plants
- Research reactors
- Fuel cycle facilities
- Radiation related facilities and activities
- Waste treatment and disposal facilities
- Transport of radioactive material

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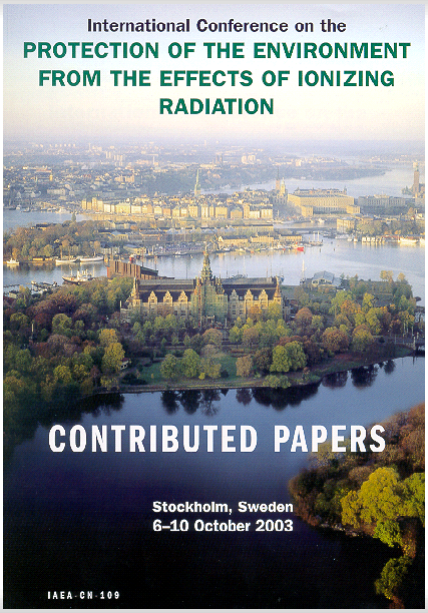

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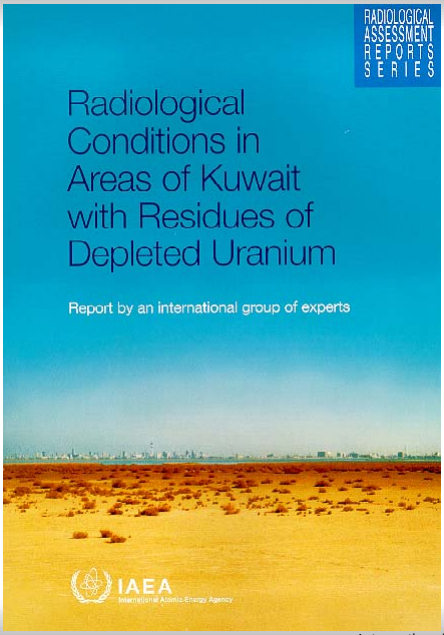

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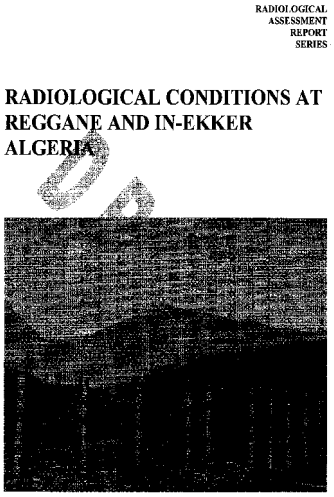

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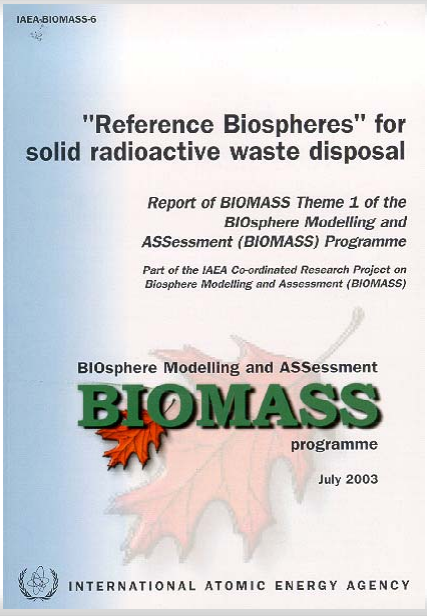

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LIST OF BIOMASS DOCUMENTS

Modelling the Migration and Accumulation of Radionuclides in Forest Ecosystems (IAEA-BIOMASS –1) (August 2002).

Testing of Environmental Transfer Models Using Data from the Atmospheric Releases of Iodine-131 from the Hanford site, USA, in 1963 (IAEA-BIOMASS-2) (March 2003).

Modelling the Environmental Transport of Tritium in the Vicinity of Long Term Atmospheric and Sub-Surface Sources (IAEA-BIOMASS-3) (March 2003).

Testing of Environmental Transfer Models Using Chernobyl Fallout Data from the Iput River Catchment Area, Bryansk Region, Russian Federation (IAEA-BIOMASS-4) (April 2003).

Modelling the Transfer of Radionuclides to Fruit (IAEA-BIOMASS-5) (July 2003).

"Reference Biospheres" for Solid Radioactive Waste Disposal (IAEA-BIOMASS-6) (July 2003).

Testing of Environmental Transfer Models Using Data from the Remediation of a Radium Extraction Site (IAEA-BIOMASS-7) (to be published).

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Environmental Modelling for Radiation Safety (EMRAS) – started September 2003

- **Working groups**
- **1 Revision of TRS-364, Handbook of parameter values for the prediction of radionuclide transfer in temperate environment**
- **2 Modelling of tritium and carbon-14**
- **3 Modelling the effectiveness of countermeasures used against releases of iodine-131**
- **4 Model validation of radionuclide transport in aquatic systems**
- **5 Modelling of NORM releases and remediation**
- **6 Assesment of the behaviour of radionuclides dispersed in urban environments**

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